ABSTRACT

A motor controller implements alternately a feedback control for d axis current and a feedback control for q axis current using an estimate value of a rotor angle
5   in different control cycles. Then, the motor controller calculates a sine reference value which corresponds to a sine value of an angle which is twice a phase difference between an actual value and an estimate value of a rotor angle and a cosine reference value which corresponds to
10   a cosine value of the angle which is twice the phase difference based on variations of the d axis actual current and q axis actual current and levels of d axis voltage and q axis voltage in a control cycle in which feedback controls are implemented for d axis current and q axis
15   current and detects a rotor angle using the sine reference value and the cosine reference value so calculated.